

Claims

1. A carrier tape forming apparatus comprising a tape paying-out unit for paying out a tape to be worked, a tape feeding unit for feeding the tape, a forming unit for effecting embossing on the tape, a perforating unit for perforating at least a feeding hole in the tape, and a tape taking-up unit for taking up the finished tape thereabout;
- 5 wherein the apparatus comprises,
- double-acting driving units provided as driving sources at least for the tape feeding unit, the forming unit and the tape taking-up unit, said each driving unit being fluid-operated and movable along a straight path; and
- 10 a controller for independently controlling driving/stopping of said double-acting driving units for said forming unit and said tape taking-up unit in association with driving/stopping of said double-acting driving unit for said feeding unit.
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2. The apparatus according to claim 1, wherein the paying-out operation by the tape paying-out unit is effected by the double-acting driving unit provided for the tape feeding unit for feeding the tape feeding operation.
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3. The apparatus according to claim 2, wherein the tape paying-out unit includes a pay-out reel winding the tape to be worked thereabout, a dancer roller for adjusting the paying-out operation and a brake belt for braking a reel shaft of the pay-out reel; and
- 25 a braking amount of the brake belt is adjusted for adjusting an amount of the tape to be paid out from the tape paying-out unit, in accordance with a movement of the dancer roller associated with the feeding operation of the tape feeding unit.
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4. The apparatus according to claim 1, further comprises a slitting unit for slitting or cutting off a width-wise end of the tape; and

a slitting blade and a feeding roller provided in said slitting unit are rotatably driven by said double-acting driving unit provided for the tape feeding unit for feeding the tape.

5. The apparatus according to any one of claims 1-4, wherein the tape feeding unit includes a tape holding means movable back and forth in unison by the double-acting driving unit for the tape feeding unit and a stopper for restricting a position of the tape holding means thereby to adjust the feeding amount of the tape.

6. The apparatus according to claim 5, wherein the stopper includes a forwardmost position determining portion, a rearmost position determining portion and a feeding amount adjusting portion, the feeding amount of the tape being adjustable by the feeding amount adjusting portion.

7. The apparatus according to claim 6, wherein the tape holding means includes at least one pair of tape holders provided across the forming unit and the perforating unit, and a connecting member for connecting the pair of tape holders together to be movable back and forth by the double-acting driving unit.

8. A method of forming a carrier tape comprising the steps of: paying out a tape to be worked from a tape paying-out unit; fixing the tape in position at a forming unit and then embossing the tape at the forming unit; and releasing the worked tape; and taking up the worked tape at a tape taking-up unit;

wherein the tape is held by tape holding means provided across said forming unit; said tape holding means as holding the tape is moved together linearly by a double-acting driving unit which is fluid-operable, so as to pay out the tape from the tape paying-out unit and feed the tape
5 intermittently; and

the tape is formed and worked at the forming unit under a suspended condition not effecting the feeding operation.

9. The method according to claim 8, wherein in the step of fixing the
10 tape in position, this position fixing operation is effected with a feeding amount of the tape moved by the double-acting driving unit being restricted by a stopper.

10. A carrier tape formed by the method according to claim 8 or 9.
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